

Serial No. 09/586,797
Amendment dated September 16, 2003
Reply to Office Action of March 20, 2003

Docket No. MRE-0028

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-12 (Canceled)

13. (Previously Presented) A method for surface mounting electrical components on a printed circuit board (PCB) with a surface mounter, comprising:

locating a PCB at a first mounting position by moving the PCB in both the X and Y directions within a working area of the surface mounter;

picking up a plurality of electrical components with a corresponding plurality of suction nozzles; and


moving the plurality of suction nozzles simultaneously to mount the electrical components on the PCB.

14. (Previously Presented) The method of claim 13, further comprising the steps of:
locating the PCB at a second mounting position within the working area of the surface mounter; and

repeating the picking and moving steps.

15. (Previously Presented) The method of claim 13, wherein the moving step comprises simultaneously moving the plurality of suction nozzles with respect to each other to mount the electrical components on the PCB.

16. (Previously Presented) The method of claim 13, wherein the moving step comprises simultaneously moving the plurality of suction nozzles with respect to each other in both the X and Y directions to mount the electrical components on the PCB.

 17. (Previously Presented) The method of claim 13, further comprising the steps of:
checking the alignment of the electrical components held by the plurality of suction nozzles; and
selectively rotating the suction nozzles and the held electrical components based on the results of the checking step before performing the moving step.

18. (Previously Presented) The method of claim 13, wherein the locating step comprises:
transferring the PCB from a conveyer to a moving member; and
locating the moving member at the first mounting position.

19. (Previously Presented) The method of claim 13, further comprising transferring the PCB from a first conveyer to a second conveyer before performing the locating step.

20. (Previously Presented) The method of claim 19, further comprising transferring the PCB from the second conveyer back to the first conveyer after performing the moving step.

21. (Currently Amended) A method for surface mounting electrical components on a printed circuit board (PCB) with a surface mounter, comprising:

locating a PCB at a first mounting position within a working area of the surface mounter;

picking up a plurality of electrical components with a corresponding plurality of suction nozzles; and

moving the plurality of suction nozzles with respect to the PCB and with respect to each other in at least one of an X and a Y-direction to substantially simultaneously mount a plurality of the electrical components on the PCB.

22. (Previously Presented) The method of claim 21, further comprising the steps of:
locating the PCB at a second mounting position within the working area of the
surface mounter; and
repeating the picking and moving steps.

23. (Previously Presented) The method of claim 21, wherein the moving step
comprises simultaneously moving the plurality of suction nozzles with respect to each other to
mount the electrical components on the PCB.


24. (Previously Presented) The method of claim 21, wherein the moving step
comprises moving the plurality of suction nozzles with respect to each other in both the X and
Y directions to mount the electrical components on the PCB.

25. (Previously Presented) The method of claim 21, further comprising the steps of:
checking the alignment of the electrical components held by the plurality of
suction nozzles; and
selectively rotating the suction nozzles and the held electrical components based
on the results of the checking step before performing the moving step.

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26. (Previously Presented) The method of claim 21, further comprising transferring the PCB from a first conveyer to a second conveyer before performing the locating step.

 27. (Previously Presented) The method of claim 26, further comprising transferring the PCB from the second conveyer back to the first conveyer after performing the moving step.

28-36 (Canceled)